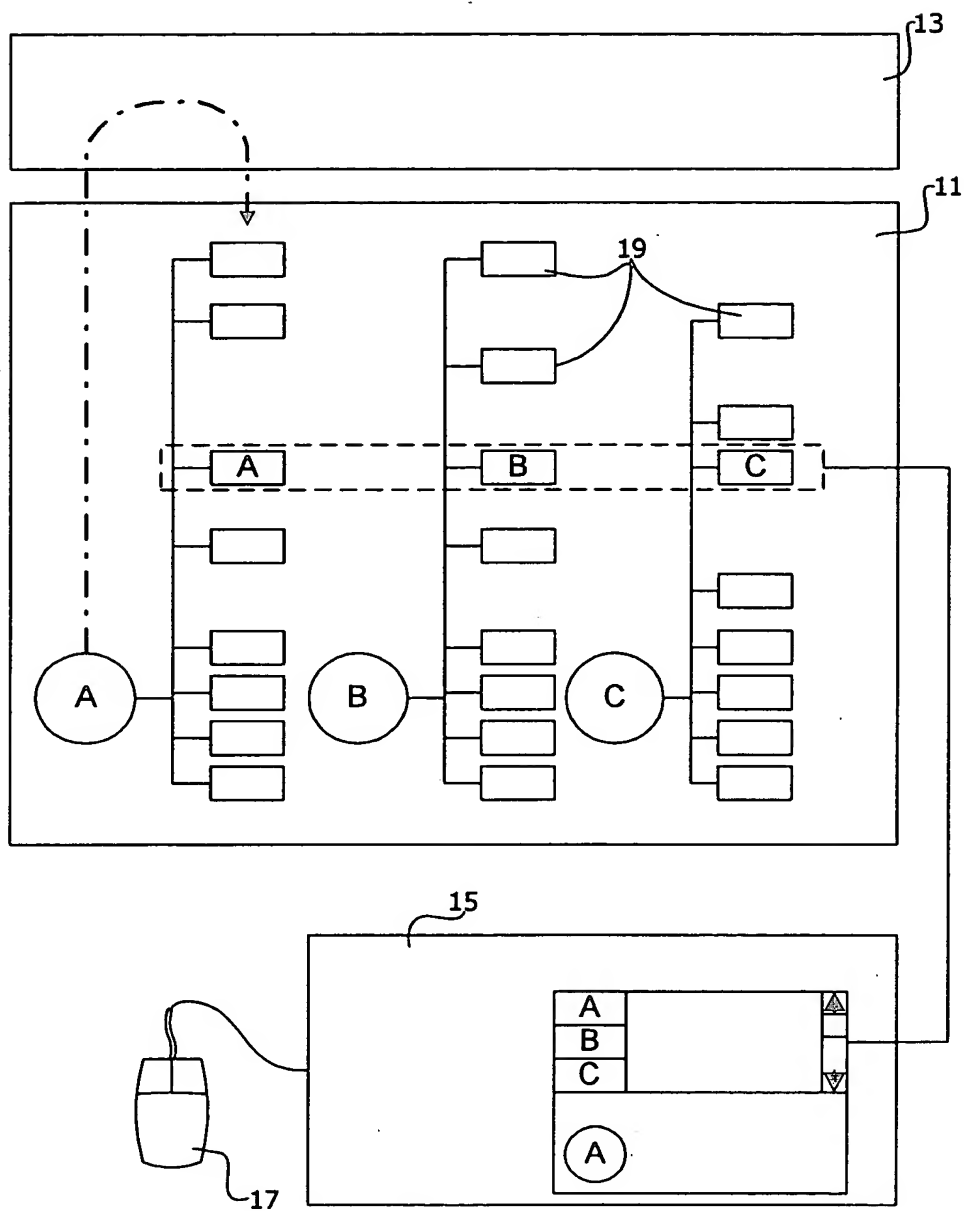
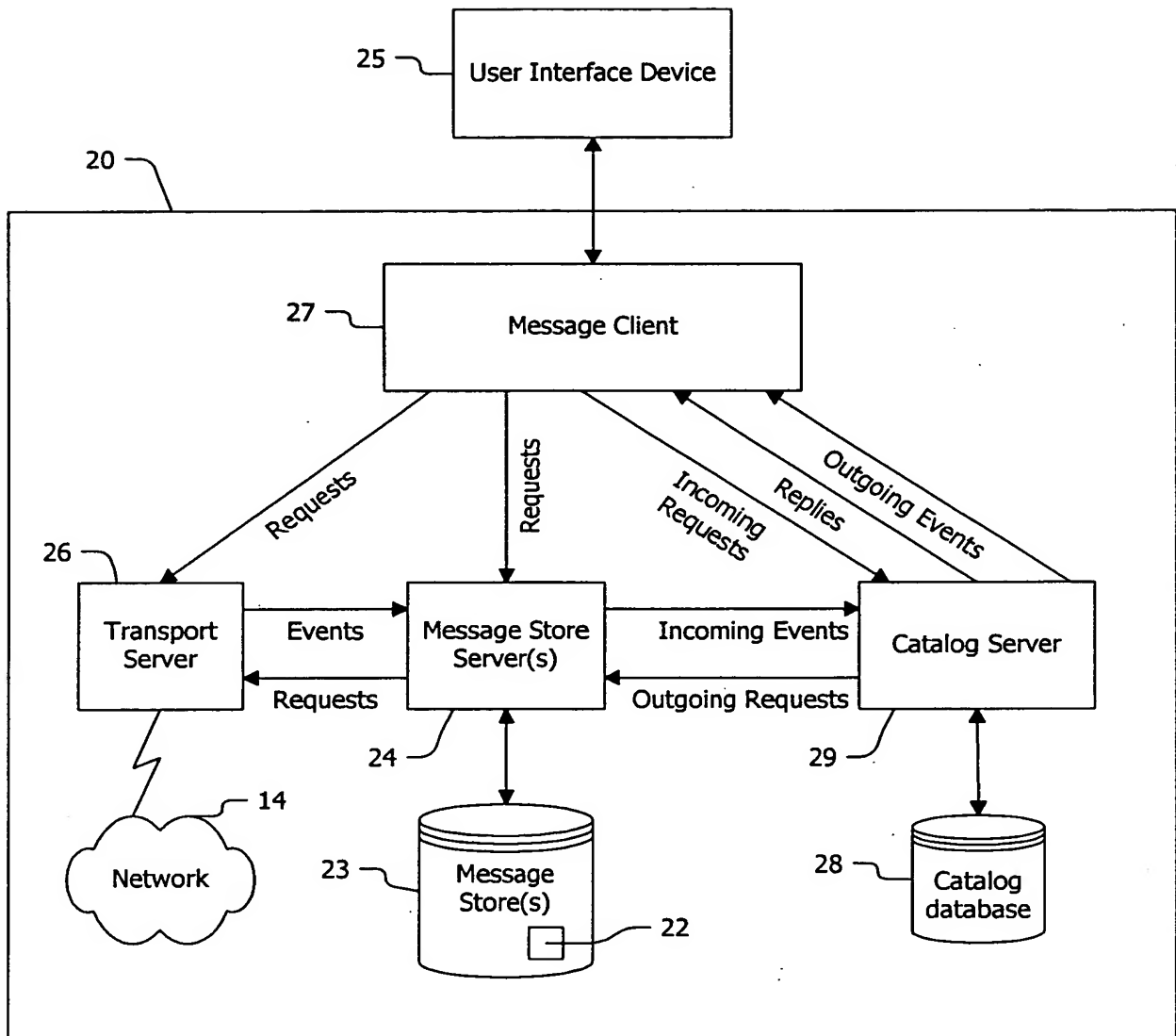


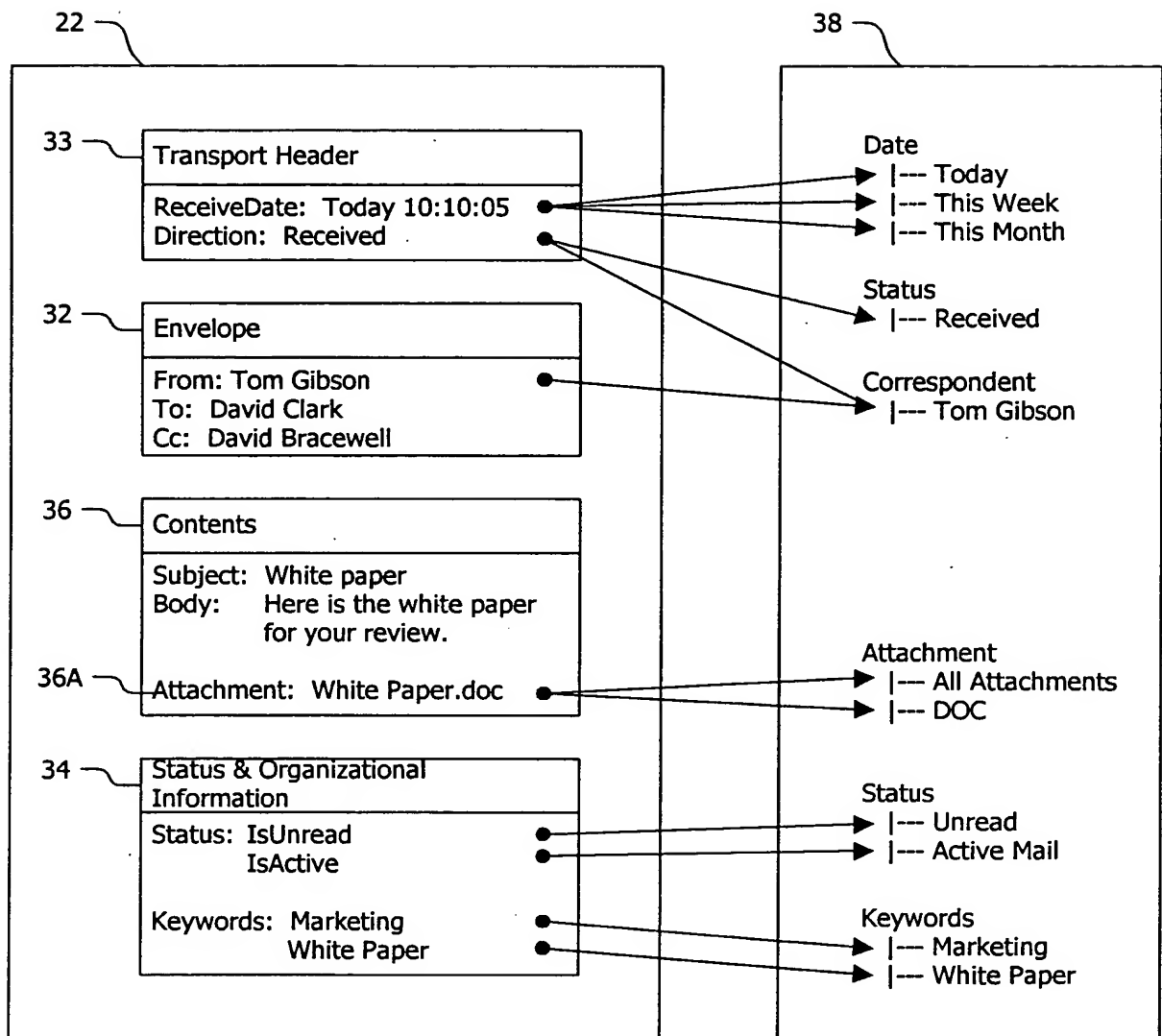
**FIG. 1A**



**FIG. 1B**



**FIG. 2**



**FIG. 3**

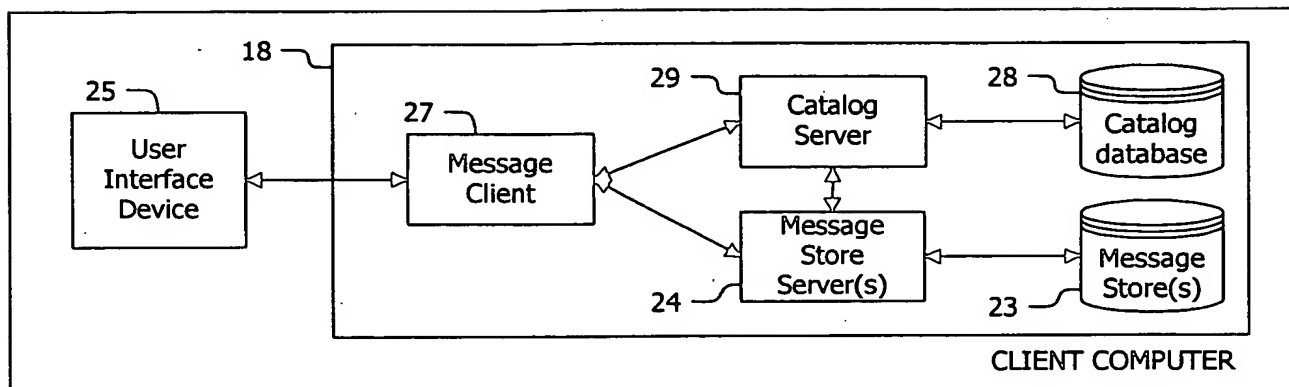


FIG. 4A

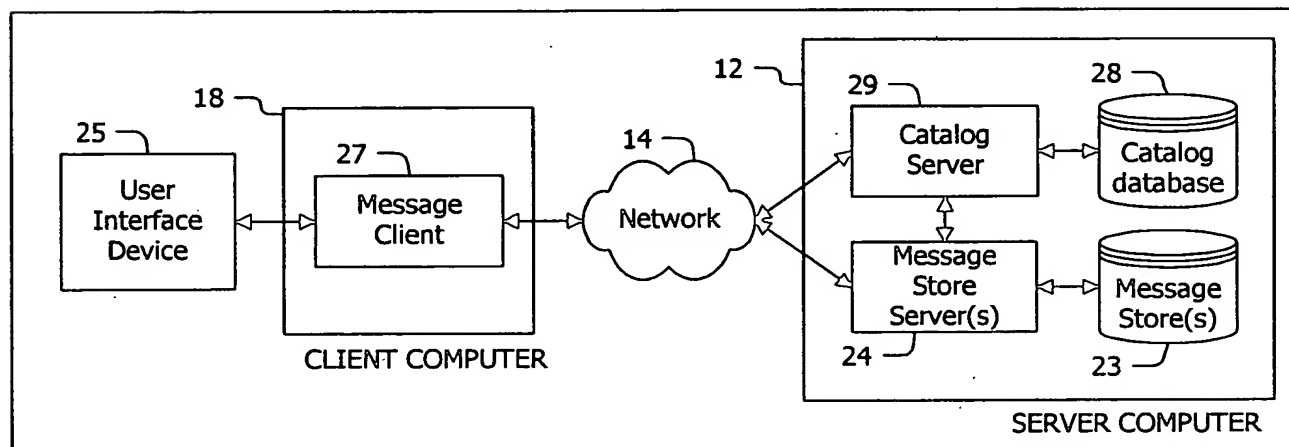


FIG. 4B

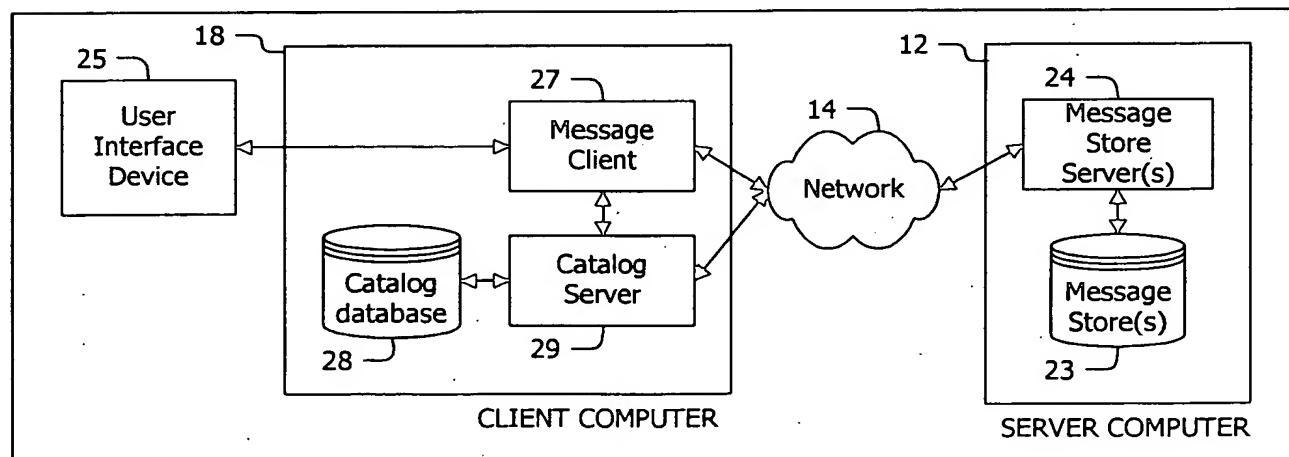


FIG. 4C

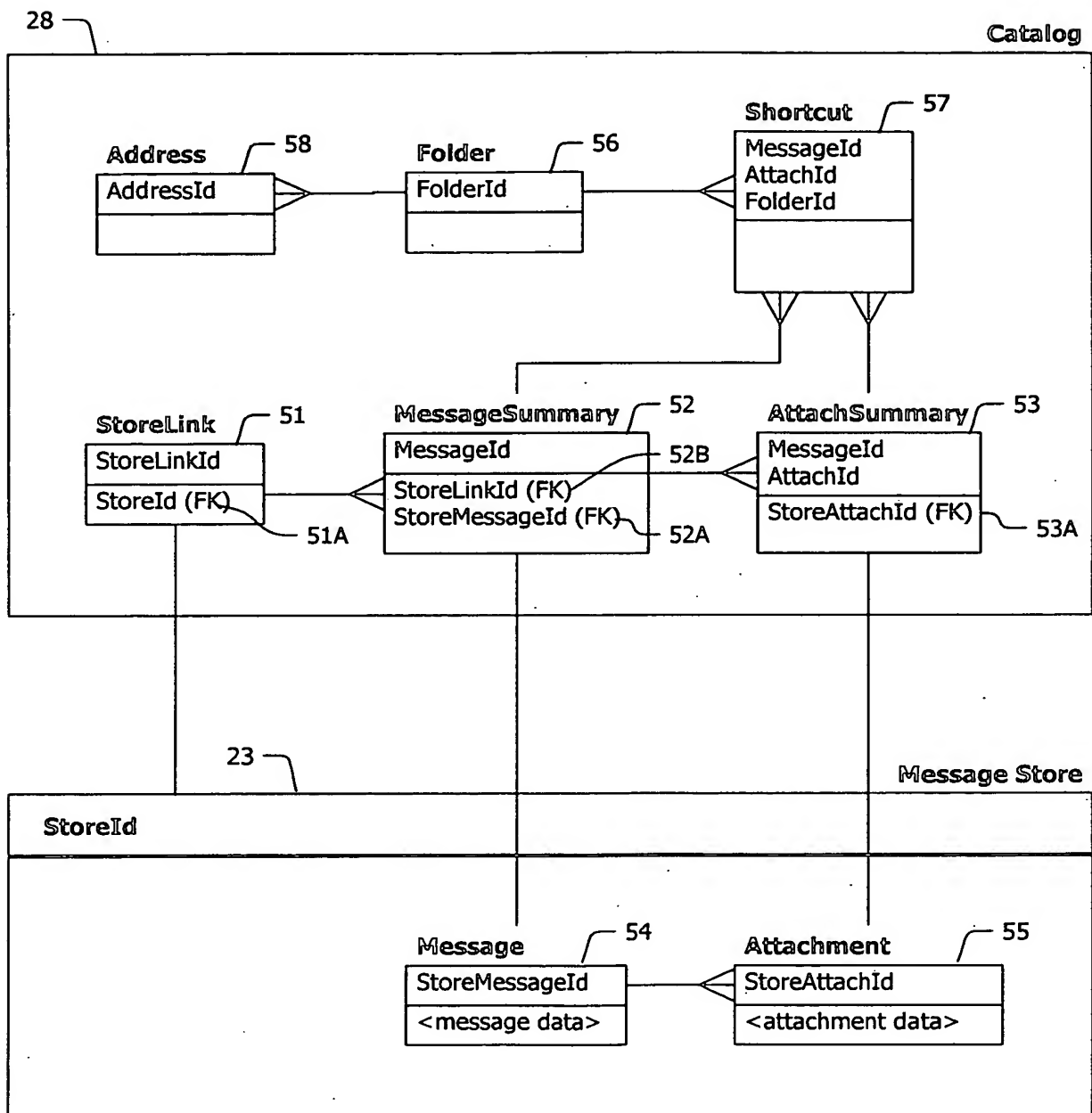
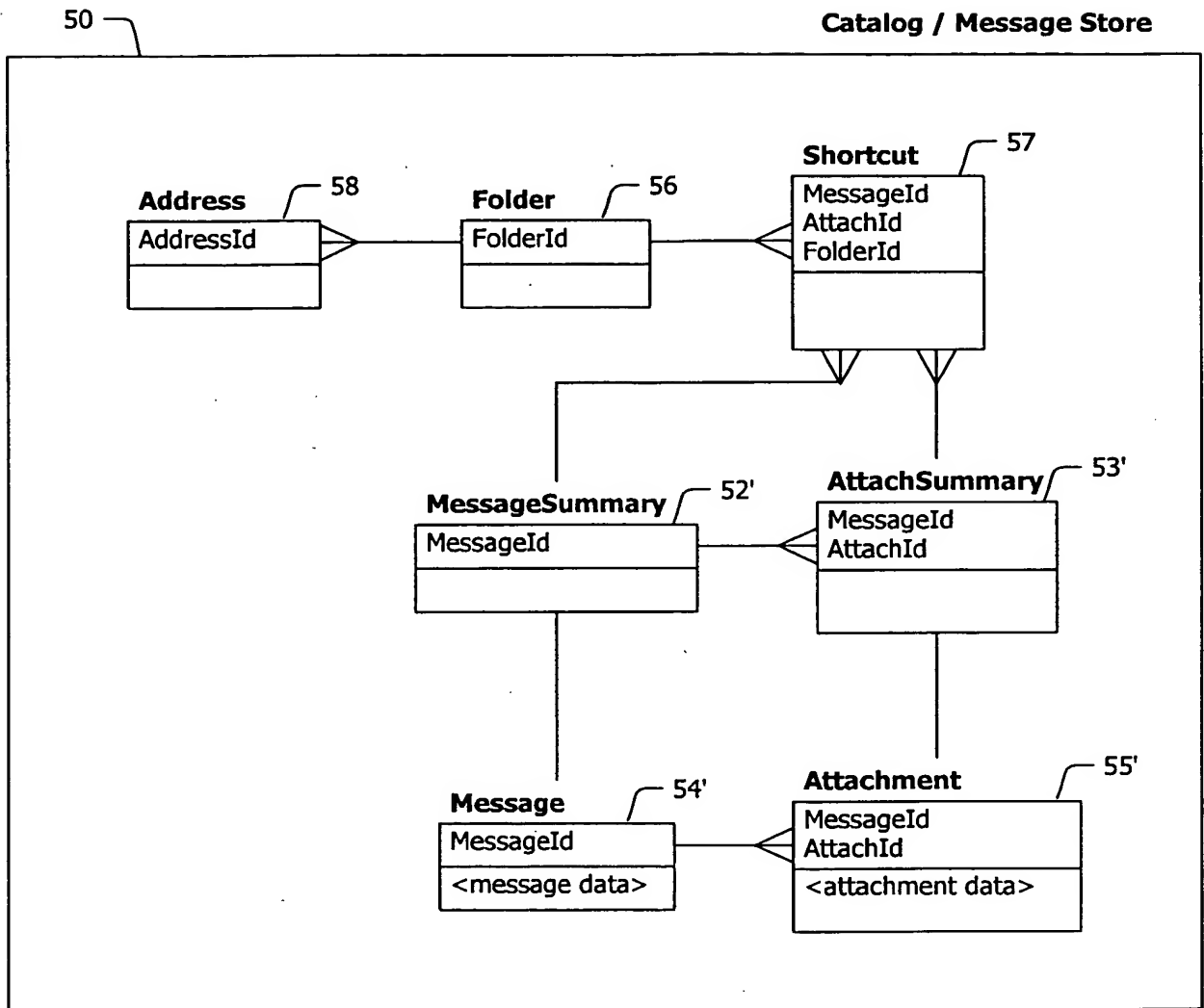
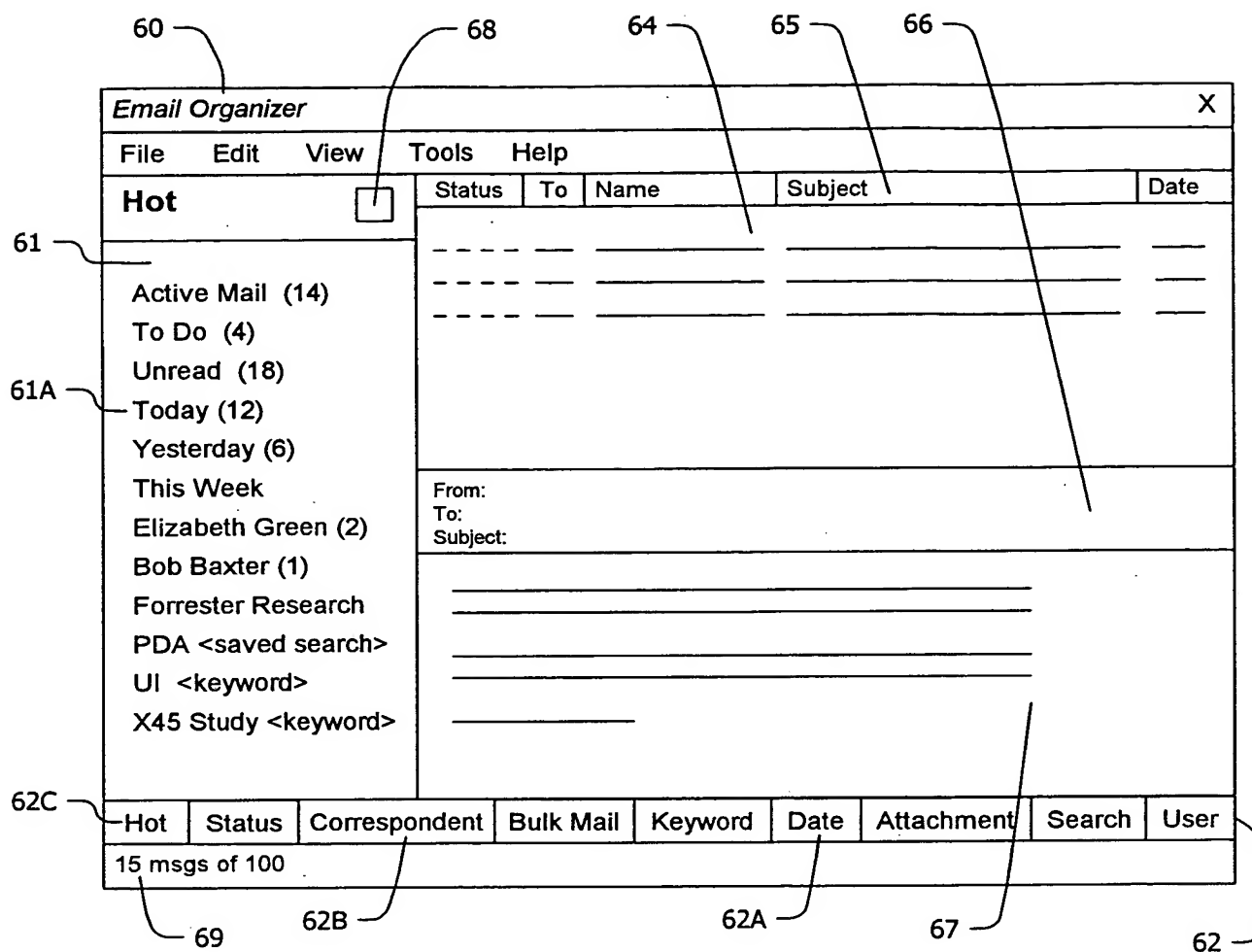


FIG. 5A



**FIG. 5B**



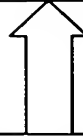
**FIG. 6**



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**THIRD LAYER - Correspondence and Bulk Mail Organization**

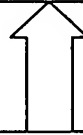
- Separate Correspondence from Bulk Mail
- Automatic organization of Correspondence
- Bulk Mail organization by sender or recipient
- Manage Correspondent and Bulk Mail folders



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**SECOND LAYER - Applications of Lightweight Message Shortcuts**

- Automatic organization by Status
- Automatic organization by Date
- Automatic organization by Attachment
- Automatic organization by user assigned Keyword
- Improved manual organization in user created folders
- Improved filtering mechanisms
- Improved handling of search results

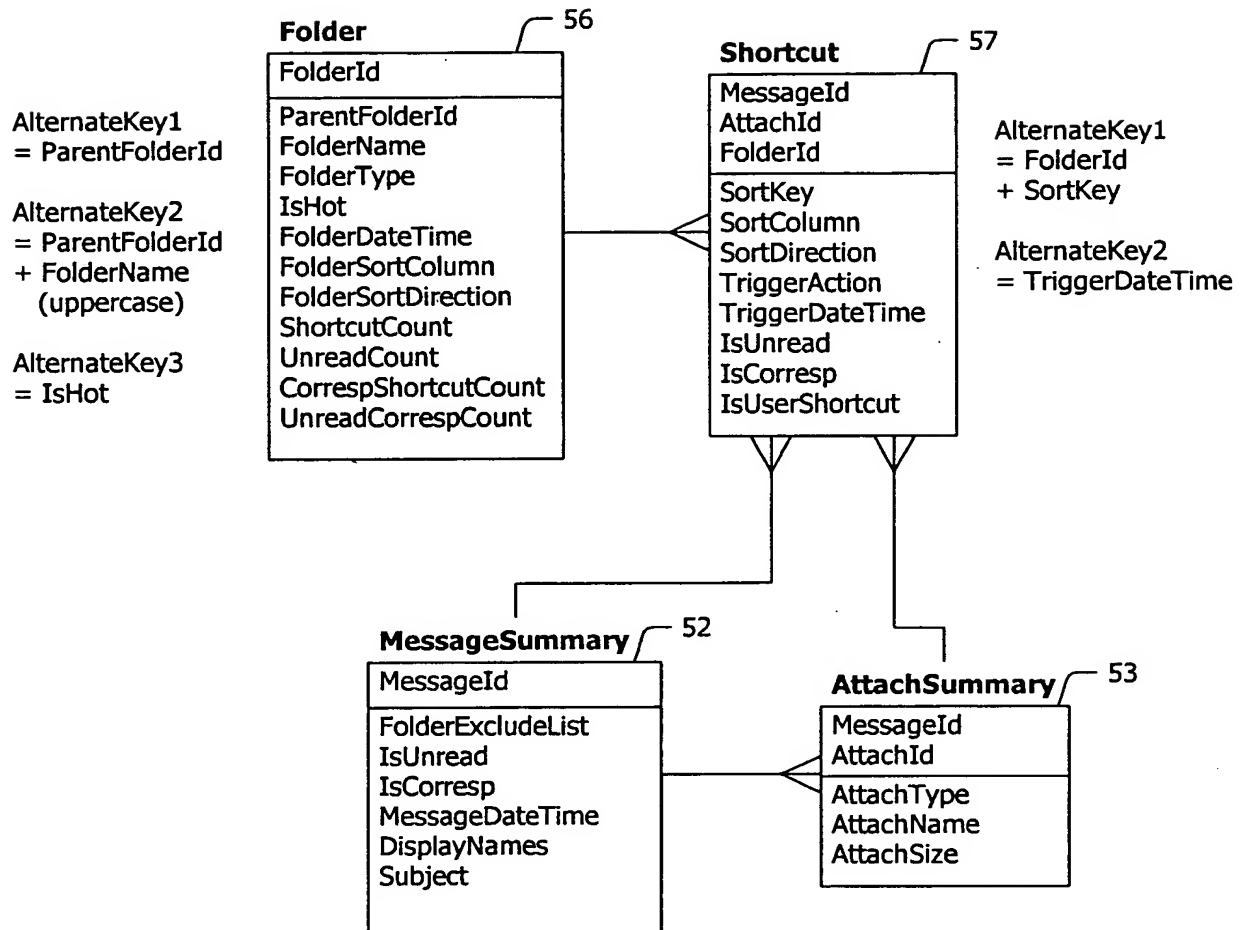


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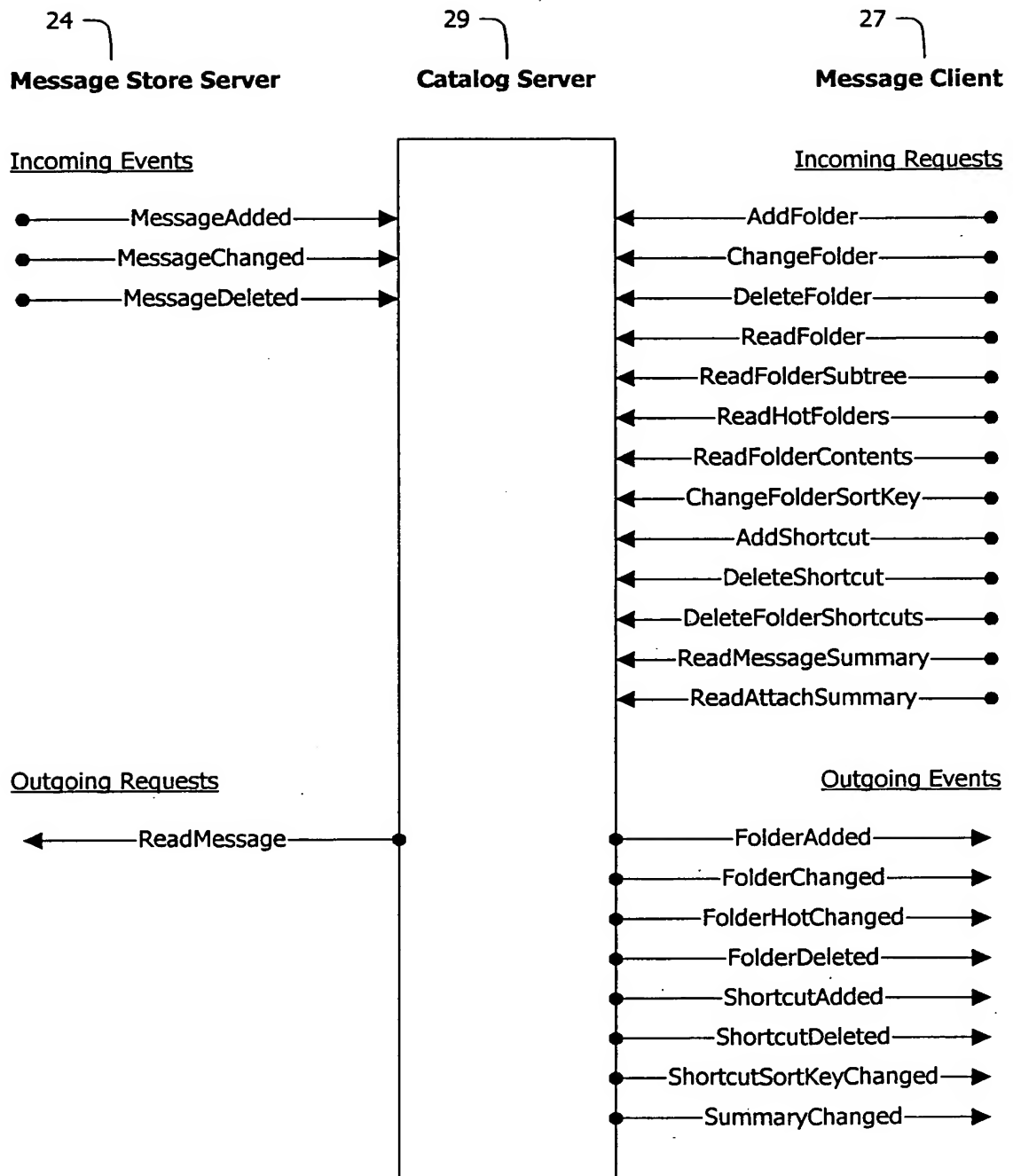
**BASE LAYER - Base Services**

- Catalog database
- Unified view of multiple Message Stores
- Catalog Server Requests and Events
- Lightweight message shortcuts
- Timed Shortcuts
- User created Shortcuts
- User excluded Shortcuts
- Incremental read of Folder contents

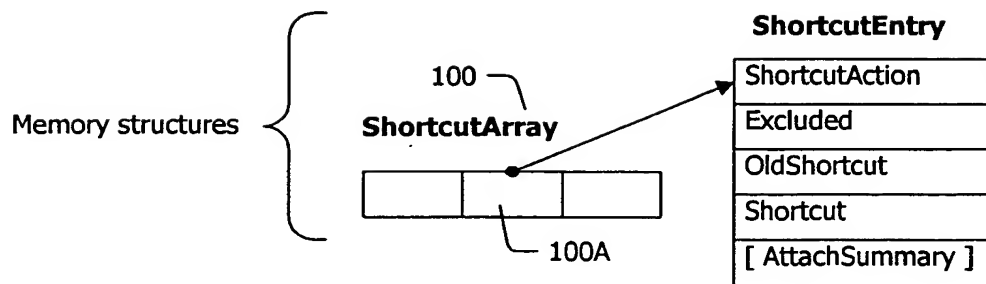
**FIG. 7**



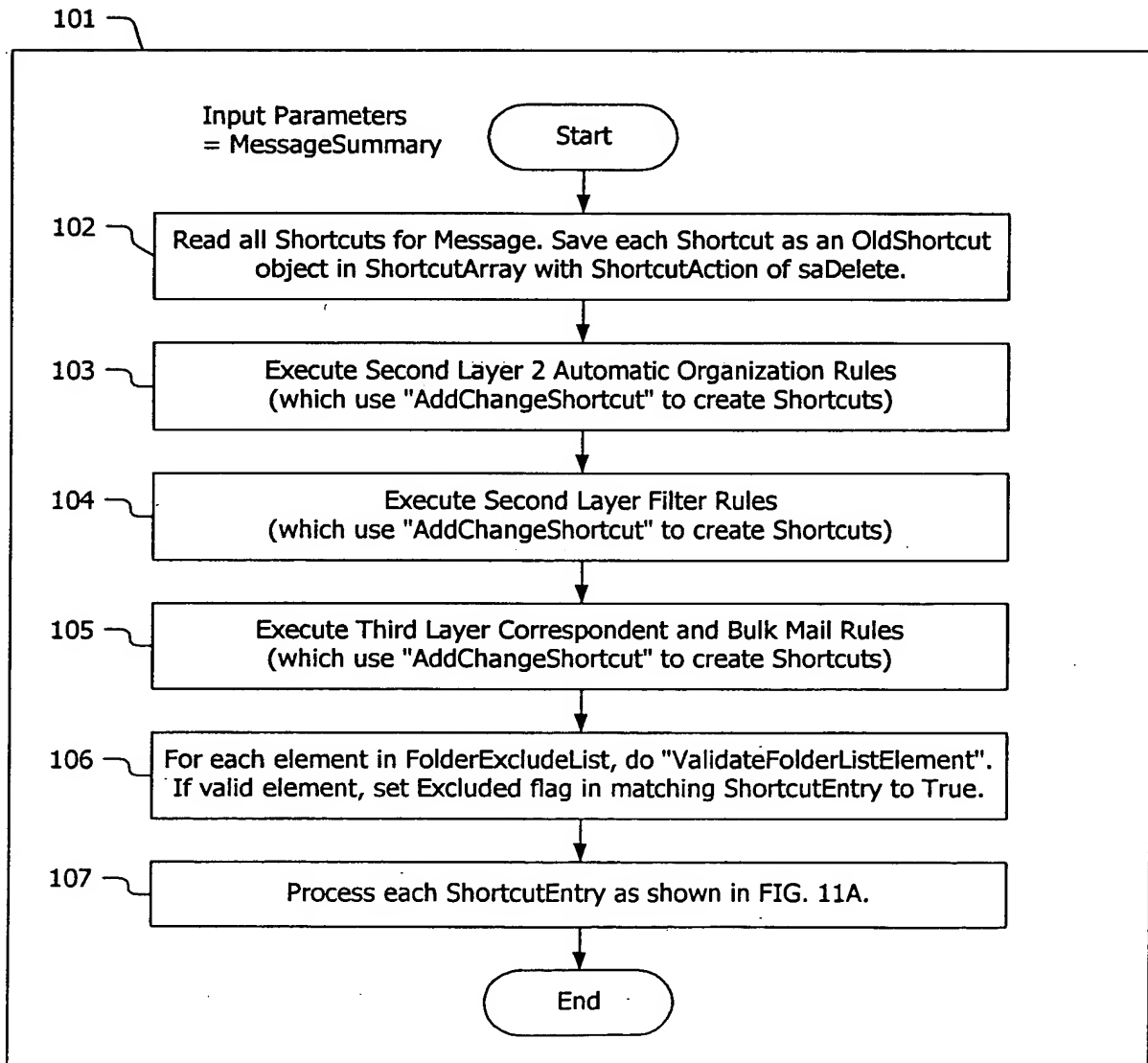
**FIG. 8**



**FIG. 9**

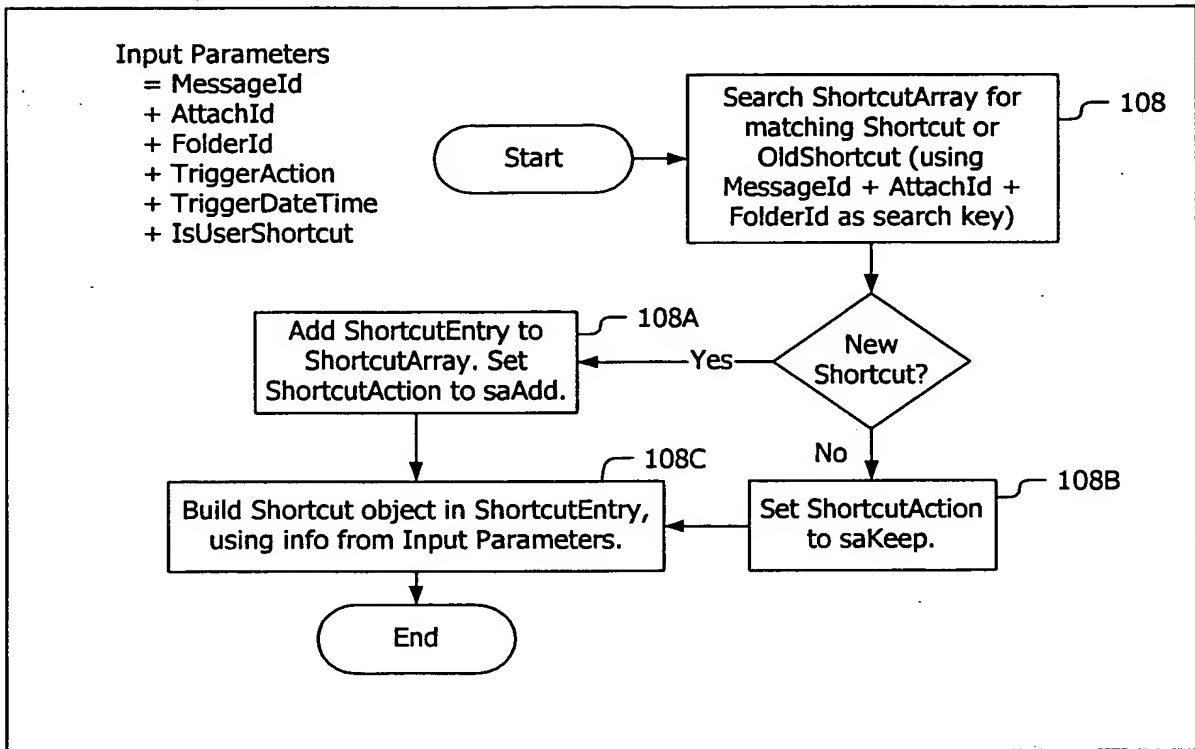


**FIG. 10A**



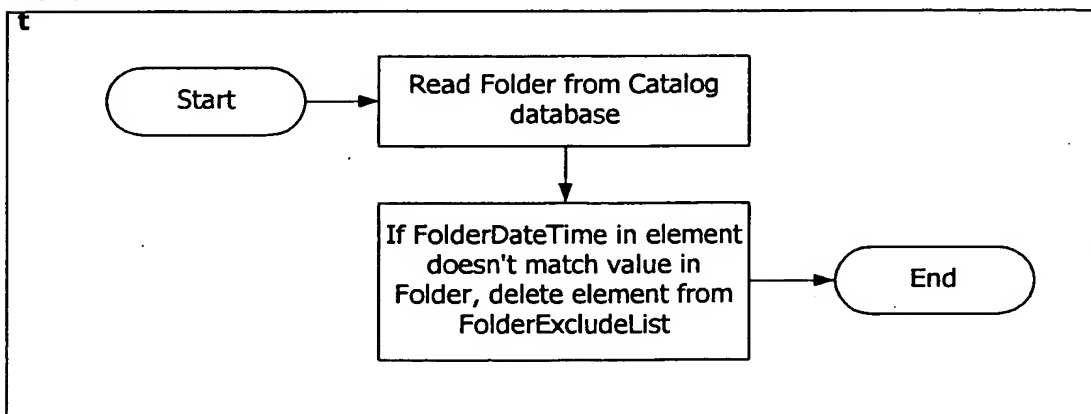
**FIG. 10B**

### AddChangeShortcut

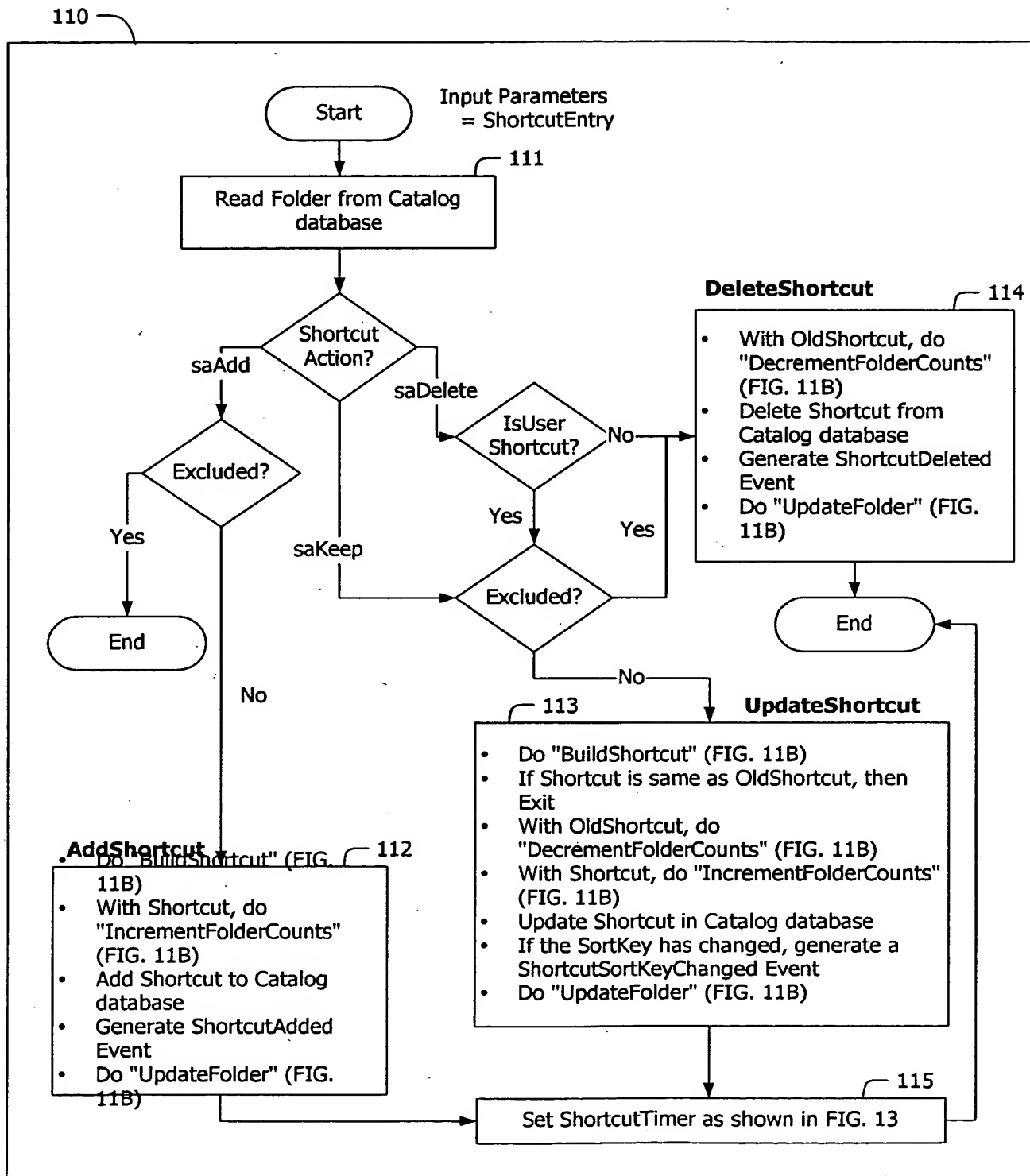


**FIG. 10C**

### ValidateFolderListElemen



**FIG. 10D**



**FIG. 11A**

**BuildShortcut**

Finish building the Shortcut object in ShortcutEntry:

- Build SortKey is shown in FIG. 12
- Set SortKey and SortColumn (from Folder)
- Set IsUnread and IsCorresp (from MessageSummary)

**IncrementFolderCounts**

- Increment ShortcutCount
- If Shortcut.IsUnread, increment UnreadCount
- If Shortcut.IsCorresp, increment CorrespShortcutCount
- If Shortcut.IsCorresp AND IsUnread, increment UnreadCorrespCount

**DecrementFolderCounts**

- Decrement ShortcutCount
- If Shortcut.IsUnread, decrement UnreadCount
- If Shortcut.IsCorresp, decrement CorrespShortcutCount
- If Shortcut.IsCorresp AND IsUnread, decrement UnreadCorrespCount

**UpdateFolder**

- Update Folder in Catalog database
- Generate FolderChanged Event

**FIG. 11B**

## SHORTCUT STRUCTURE

Byte Offset	Length	Field
0	4	MessageId
4	2	AttachId
6	4	FolderId
10	6	SortKey
16	1	SortColumn
17	1	TriggerAction
18	4	TriggerDateTime
22	1	Flags
23	1	IsCorresp

## FLAGS ENCODING

Bit	Length	Field
0	1	SortDirection
1	1	IsUnread
2	1	IsUserShortcut

## FIELD TYPE

## SORT KEY FORMAT

## Notes

UnicodeString

UCW1	UCW2	UCW3
------	------	------

Unicode Character Weights of first 3 characters of string.

AnsiString

C1	C2	C3	C4	C5	C6
----	----	----	----	----	----

Values of first 6 characters of string.

DateTime

YY	MM	DD	hh	mm	ss
----	----	----	----	----	----

YY = Year - 1950

Enumeration OR  
Boolean  
(sdDescending)

Value	YY	MM	DD	hh
-------	----	----	----	----

YY = Year - 1950

Enumeration OR  
Boolean  
(sdAscending)

Value	255 - YY	255 - MM	255 - DD	255 - hh
-------	-------------	-------------	-------------	-------------

YY = Year - 1950

Integer32 OR  
Integer16

Bits				Not Used
31-24	23-16	15-8	7-0	

Bits are numbered with 0 being the least significant and 31 the most significant.

**FIG. 12**



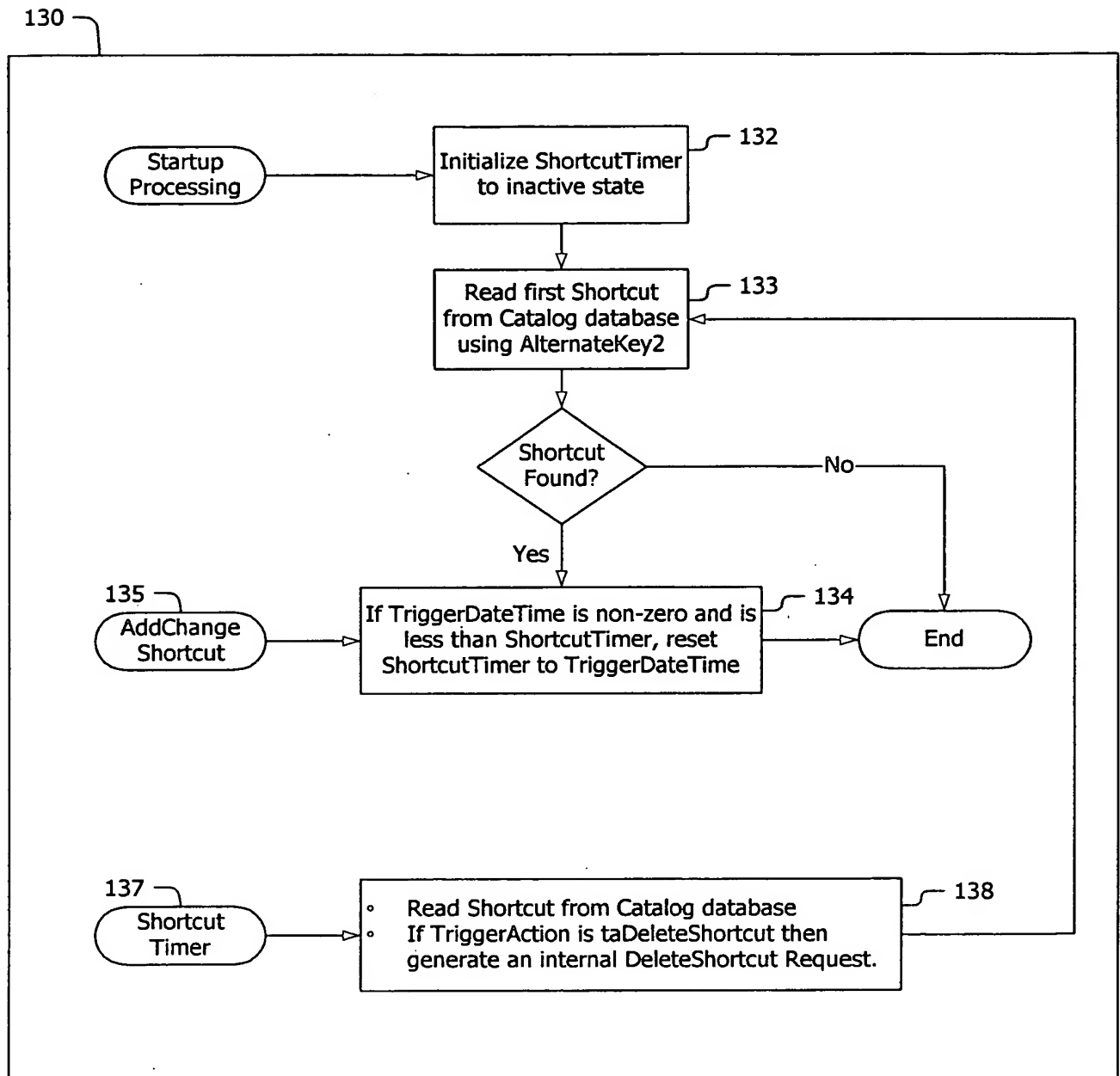
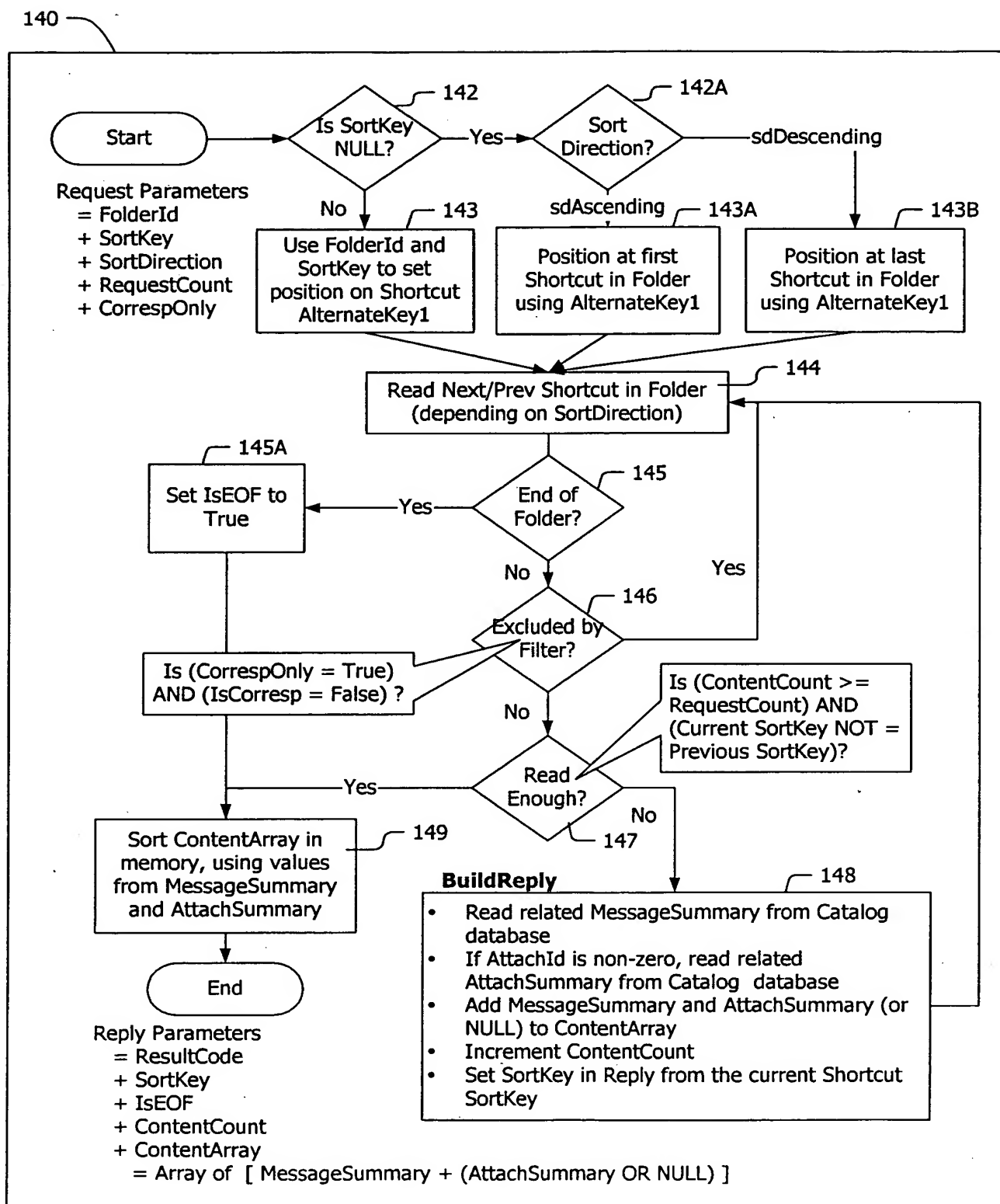
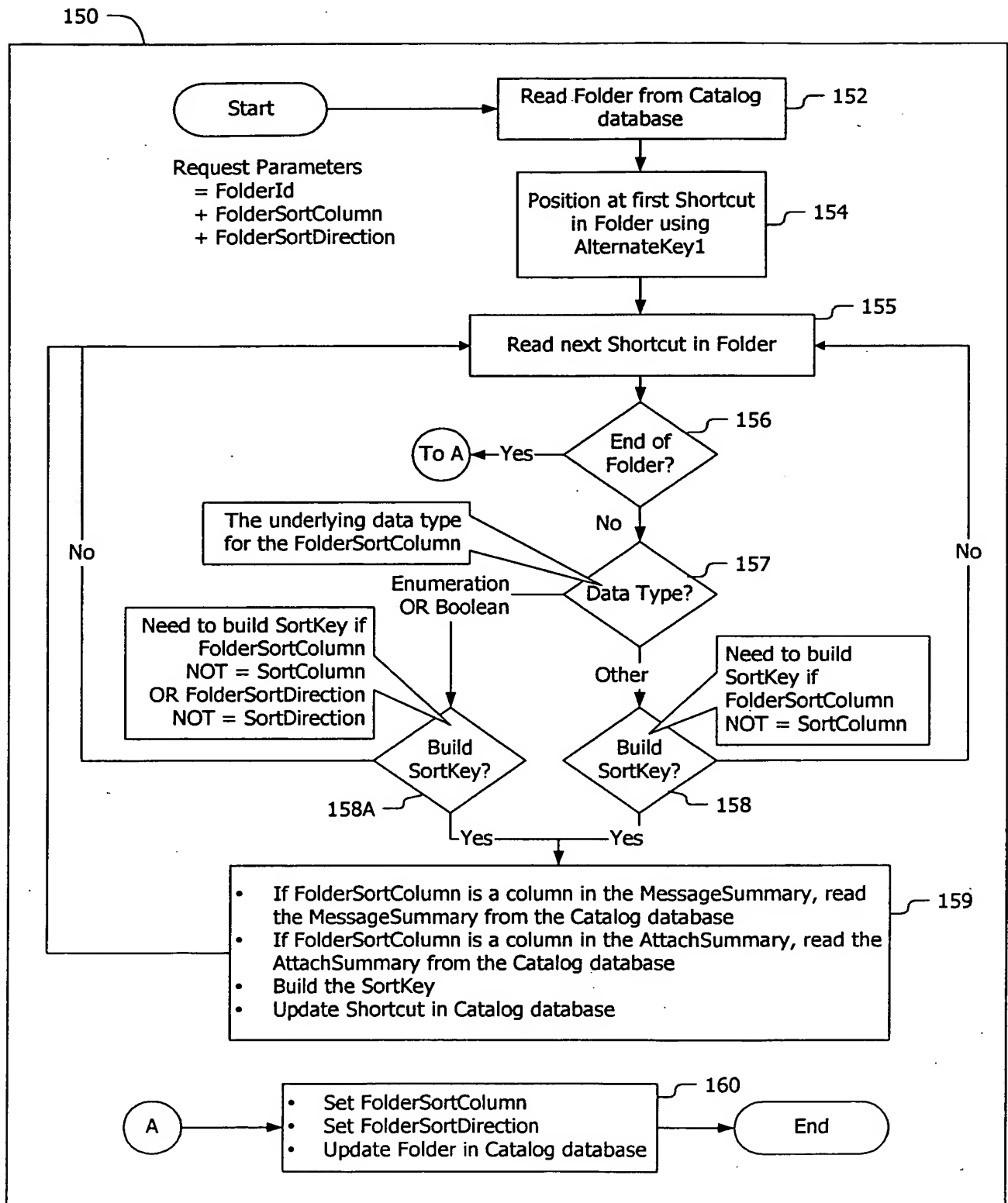


FIG. 13



**FIG. 14**



**FIG. 15**

Contains all tables and fields of Base Layer, plus the following:

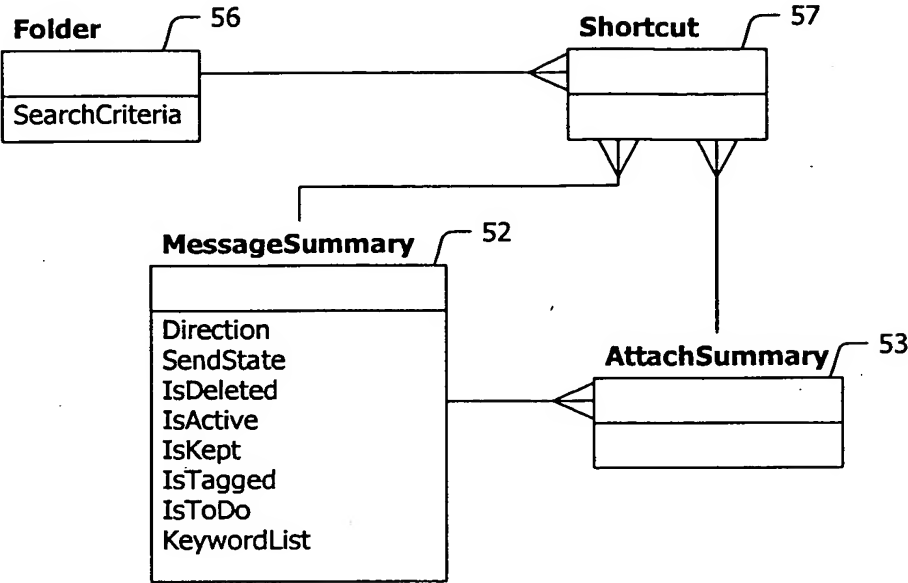
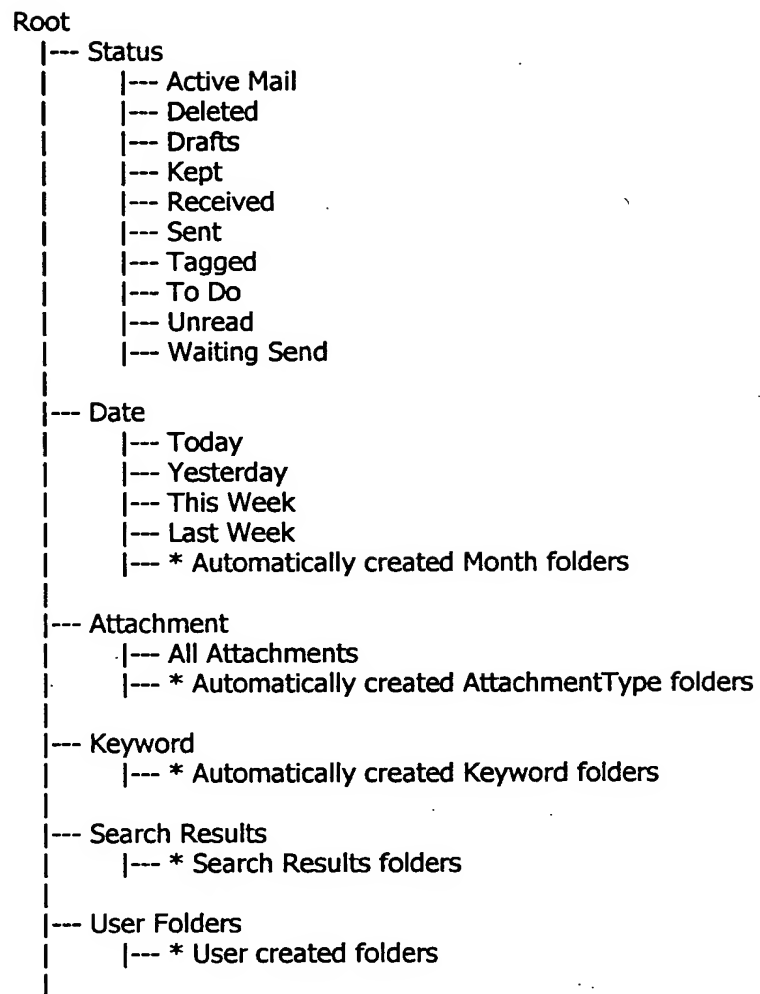
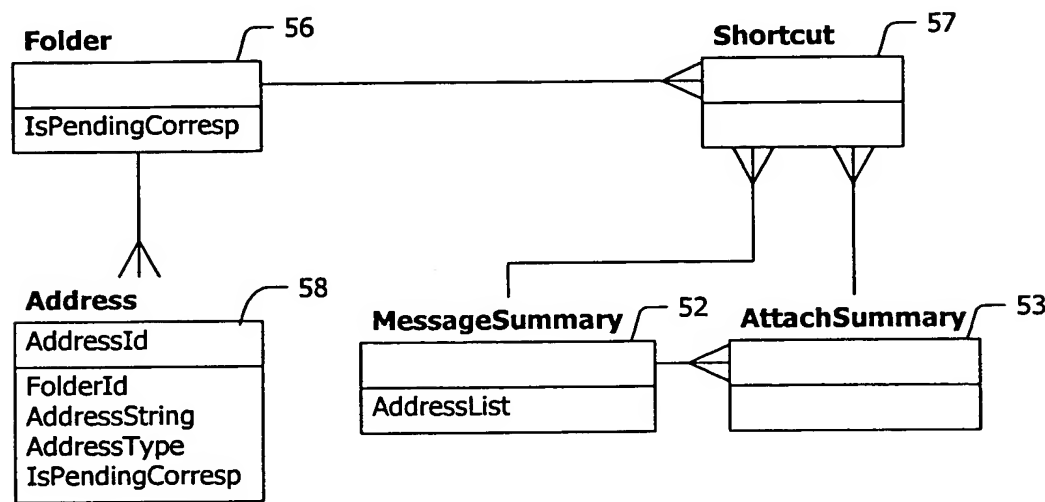


FIG. 16



**FIG. 17**

Contains all tables and fields of Base Layer and Second Layer, plus the following:



AlternateKey1  
= AddressString  
(uppercase)

AlternateKey2  
= FolderId

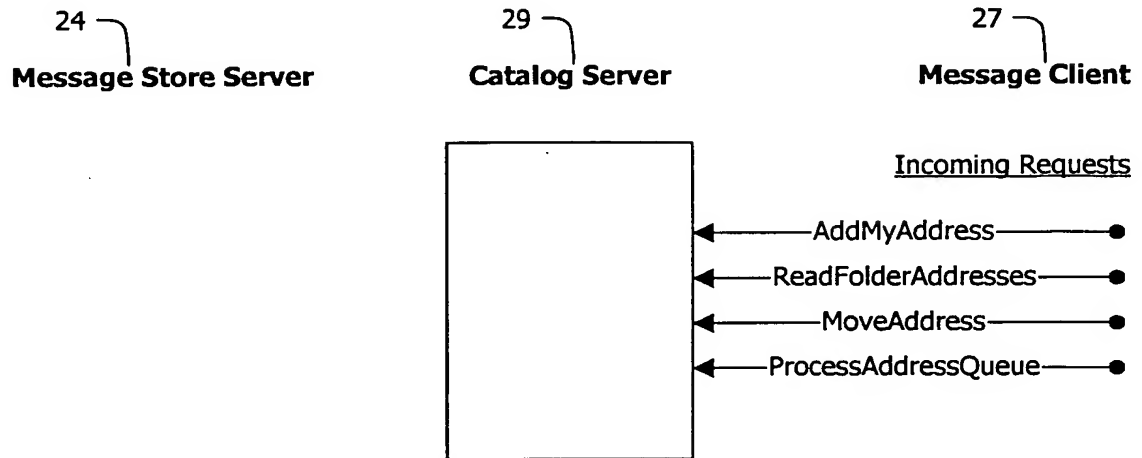
**FIG. 18**

**Contains all Folders in Base Layer and Second Layer, plus the following:**

```
<Root>
|--- Correspondents
|   |--- Me
|   |--- * Automatically created Correspondent folders
|   |--- * User created Correspondent folders
|
|--- Bulk Mail
|   |--- Unsorted
|   |--- * User created Bulk Mail folders
```

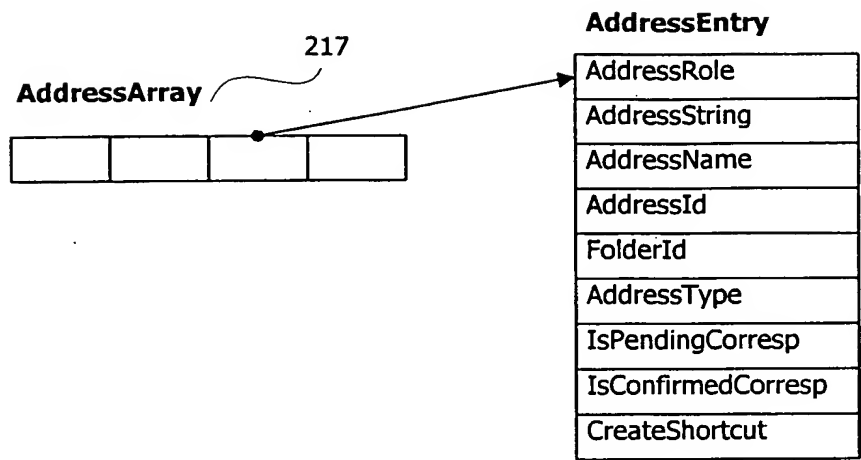
**FIG. 19**

**Includes all Requests and Events in Base Layer and Second Layer, plus the following:**

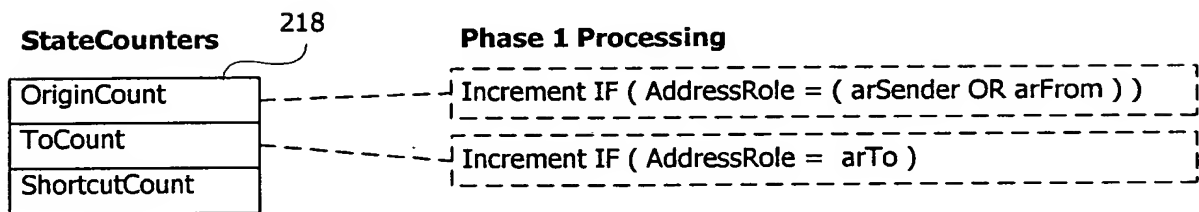


**FIG. 20**

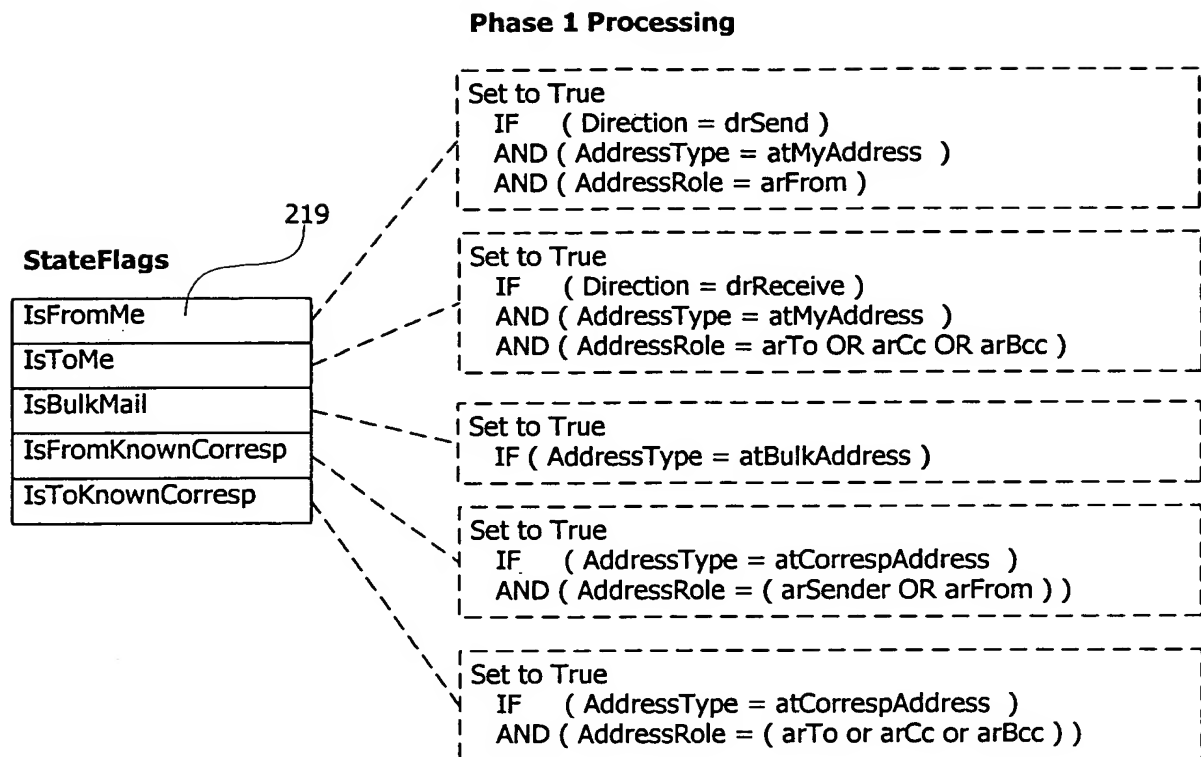




**FIG. 21A**



**FIG. 21B**



**FIG. 21C**

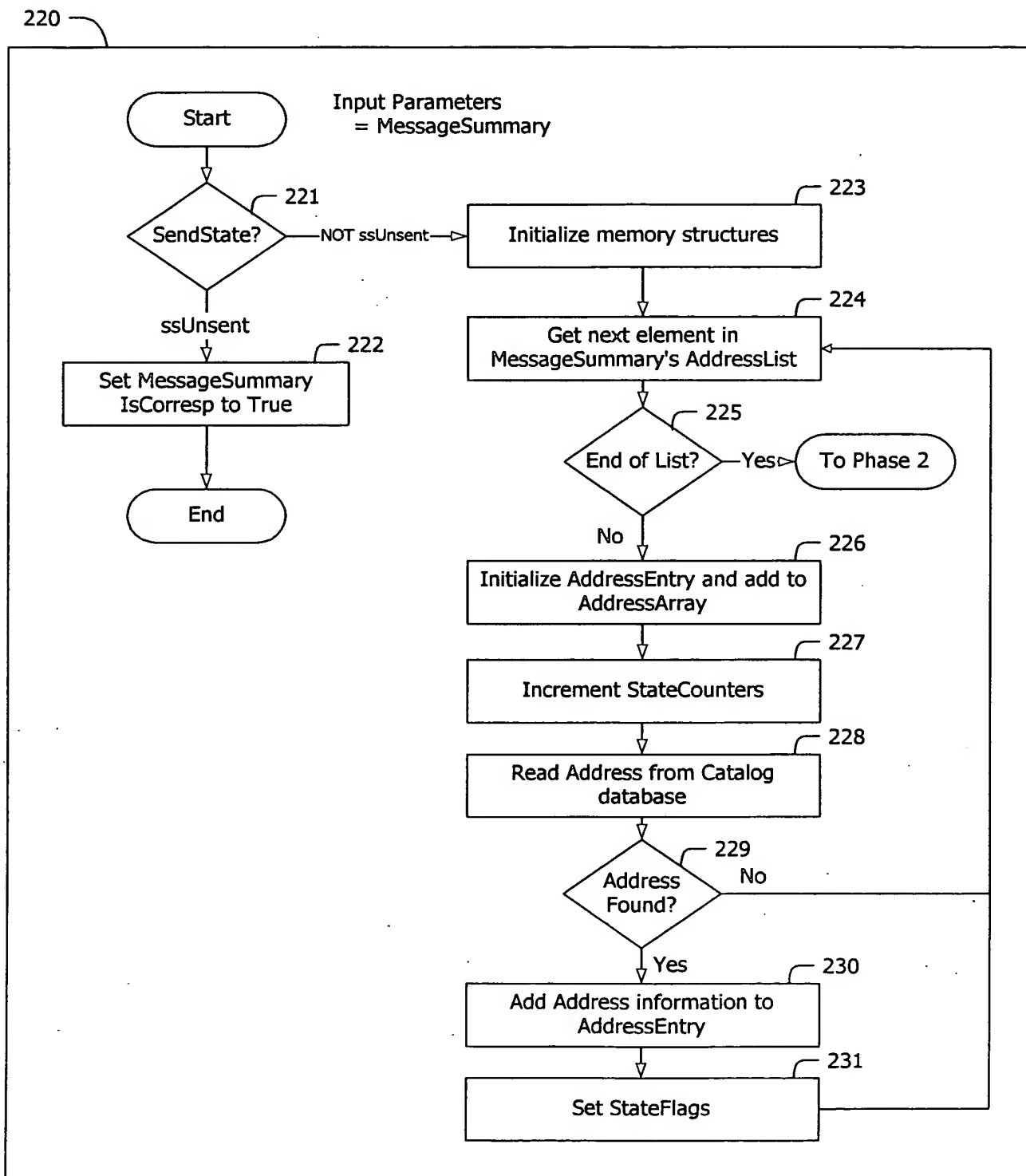


FIG. 22

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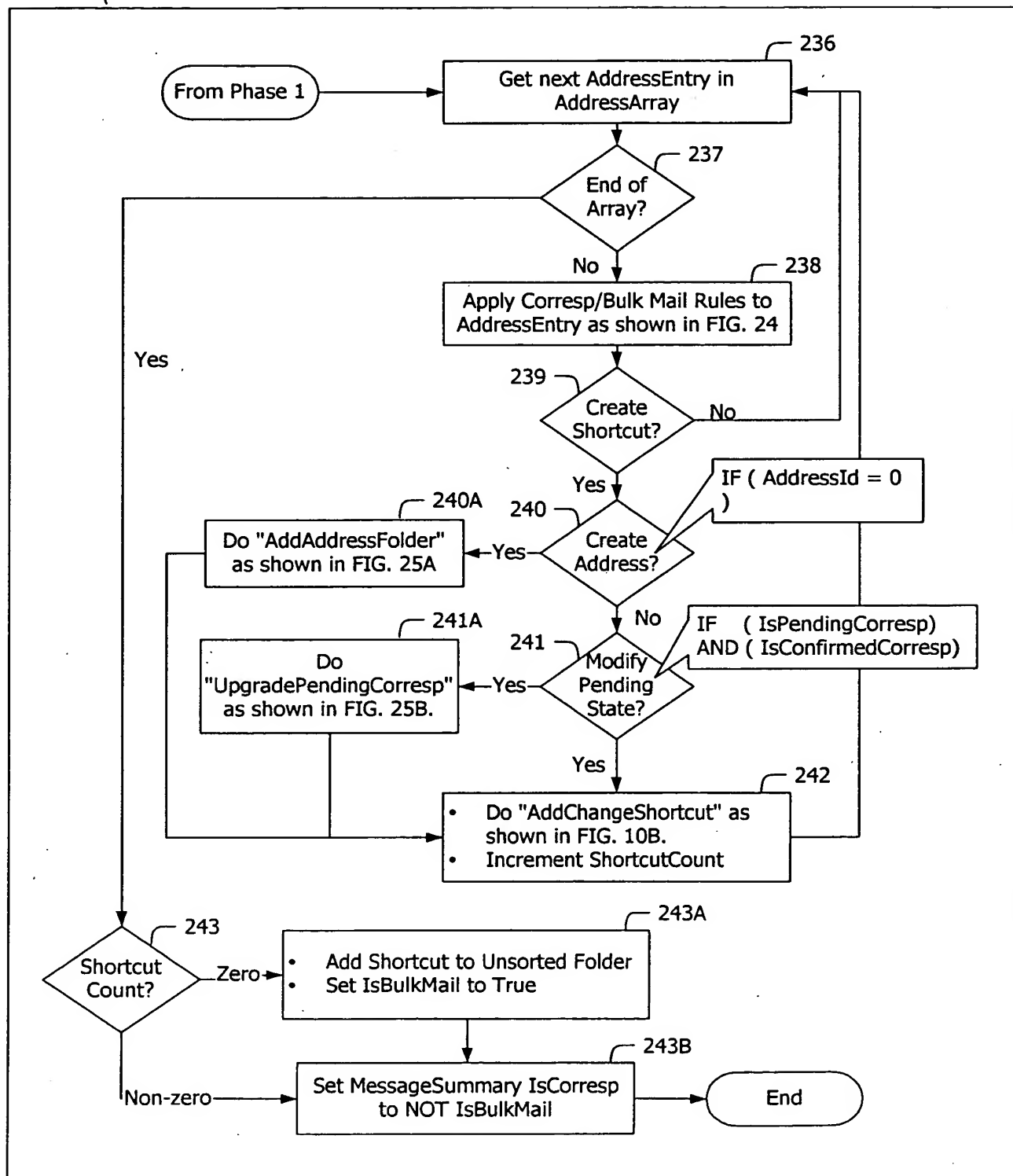


FIG. 23

## Rules

IF ( IsBulkMail )  
AND ( AddressType = atBulkAddress )

IF ( IsBulkMail ) AND ( IsToMe )  
AND ( IsFromKnownCorresp )  
AND ( Direction = drReceive )  
AND ( AddressType = atCorrespAddress )  
AND ( AddressRole = ( arSender OR arFrom ) )

IF ( IsBulkMail ) AND ( IsFromMe )  
AND ( IsToKnownCorresp )  
AND ( Direction = drSend )  
AND ( AddressType = atCorrespAddress )  
AND ( AddressRole = ( arTo OR arCc OR arBcc ) )

IF ( IsBulkMail )

IF ( Direction = drSend )  
AND ( AddressType = atMyAddress )

IF ( Direction = drSend )  
AND ( AddressType = atNoAddress )  
AND ( OriginCount = 1 )  
AND ( AddressRole = arFrom )

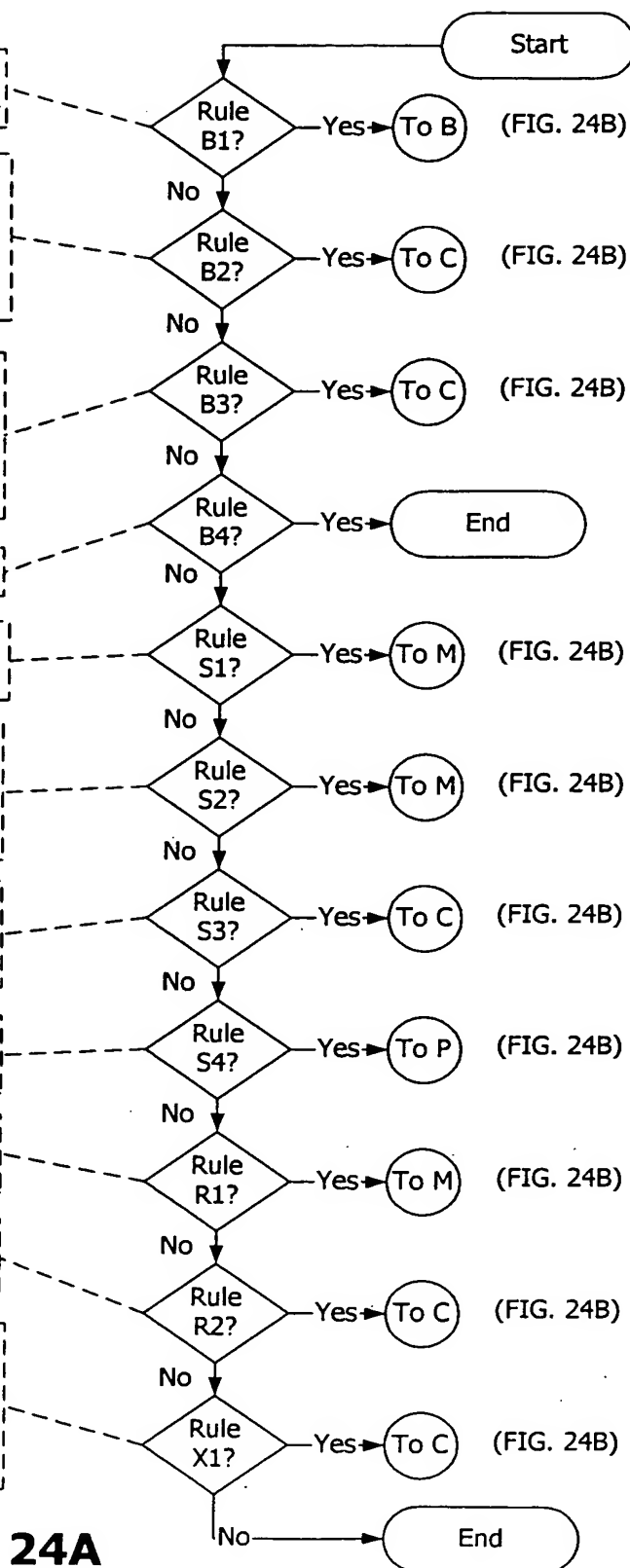
IF ( Direction = drSend )  
AND ( ToCount = 1 )  
AND ( AddressRole = arTo )

IF ( Direction = drSend )  
AND ( AddressRole = ( arTo OR arCc OR arBcc ) )

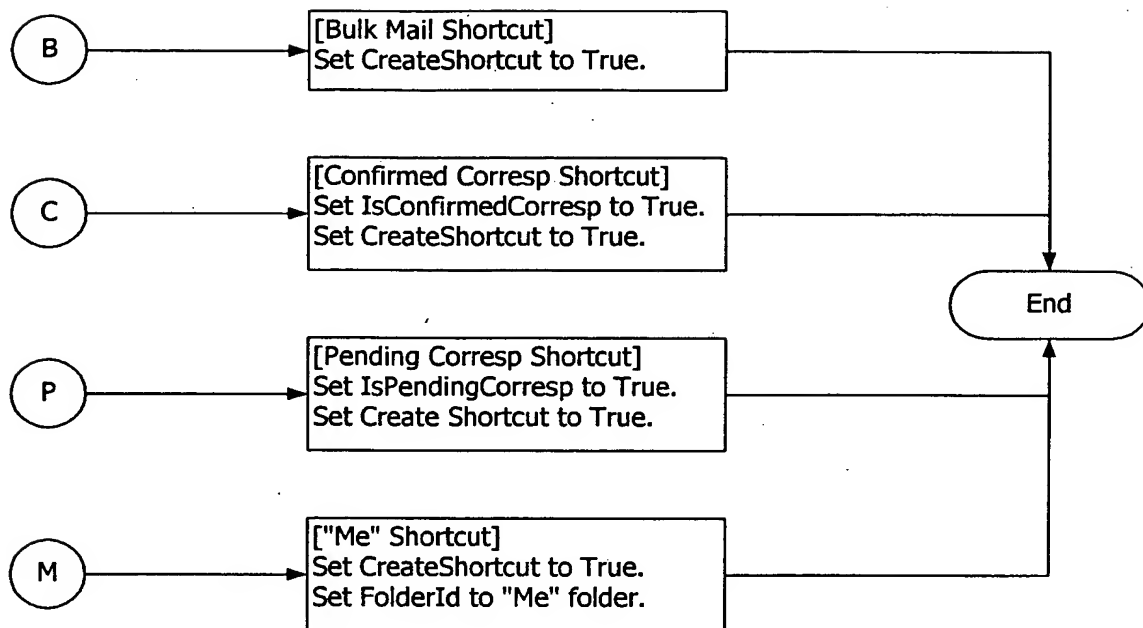
IF ( Direction = drReceive ) AND ( IsToMe )  
AND ( AddressType = atMyAddress )

IF ( Direction = drReceive ) AND ( IsToMe )  
AND ( AddressRole = ( arSender OR arFrom ) )

IF ( Direction = drReceive )  
AND ( NOT IsToMe )  
AND ( IsFromKnownCorresp )  
AND ( AddressType = atCorrespAddress )  
AND ( AddressRole = ( arSender OR arFrom ) )

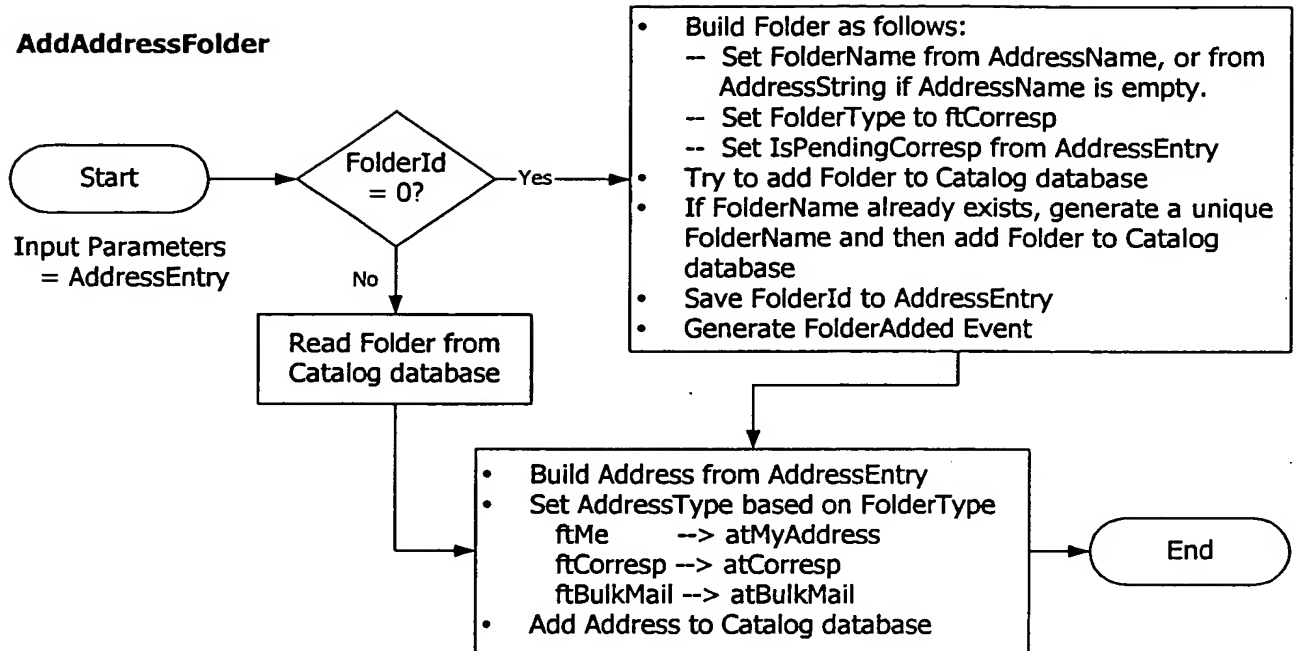


**FIG. 24A**



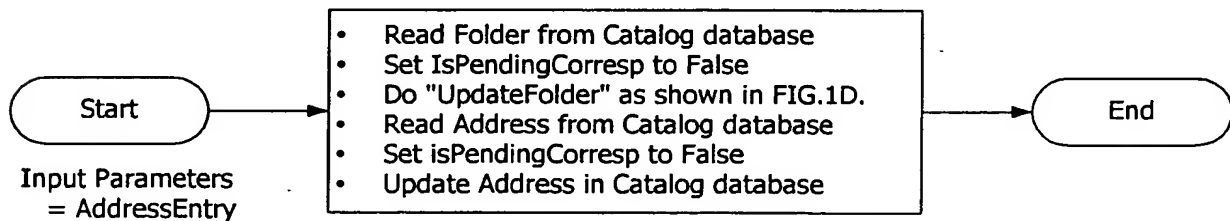
**FIG. 24B**

### AddAddressFolder

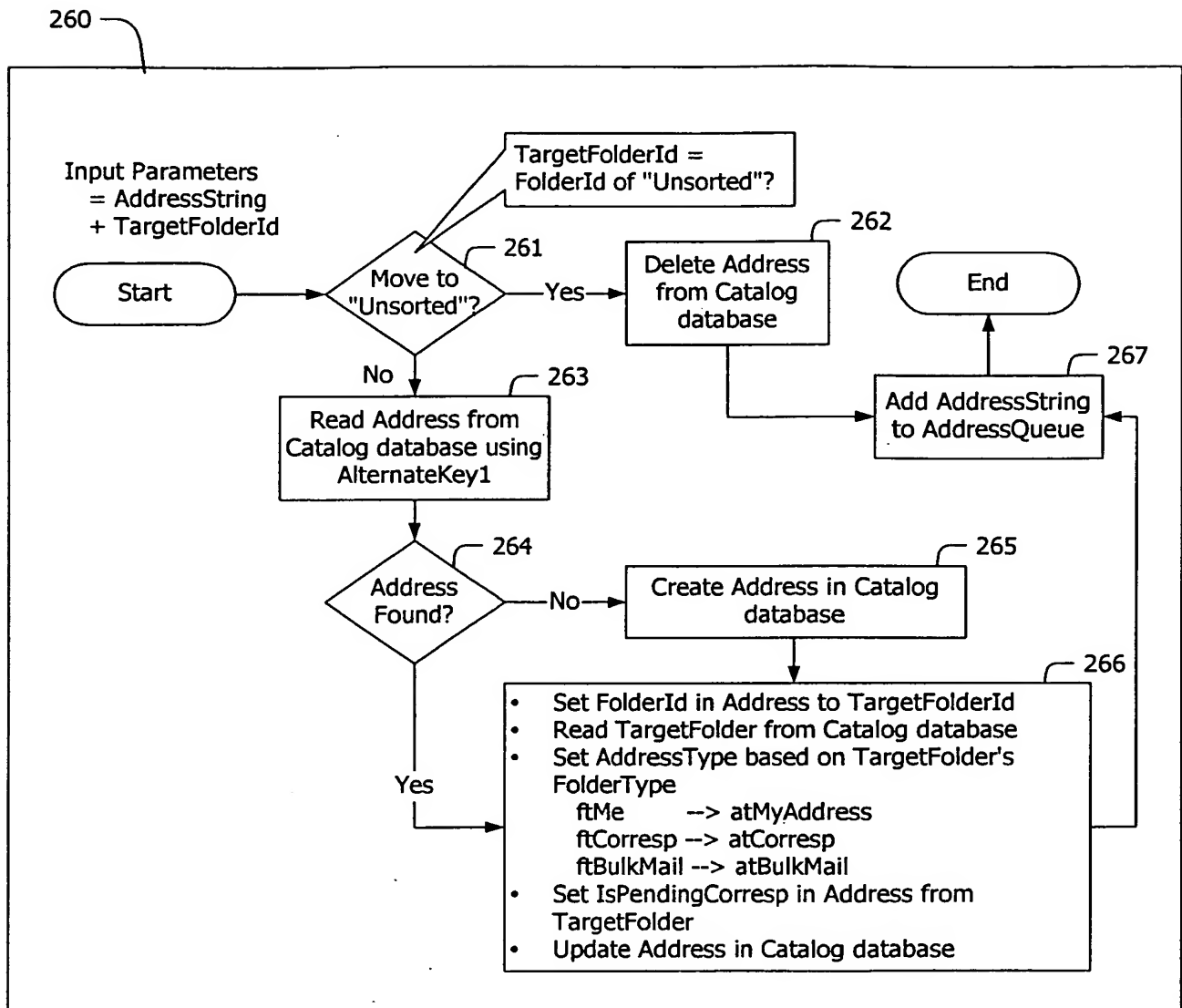


**FIG. 25A**

### UpgradePendingCorresp

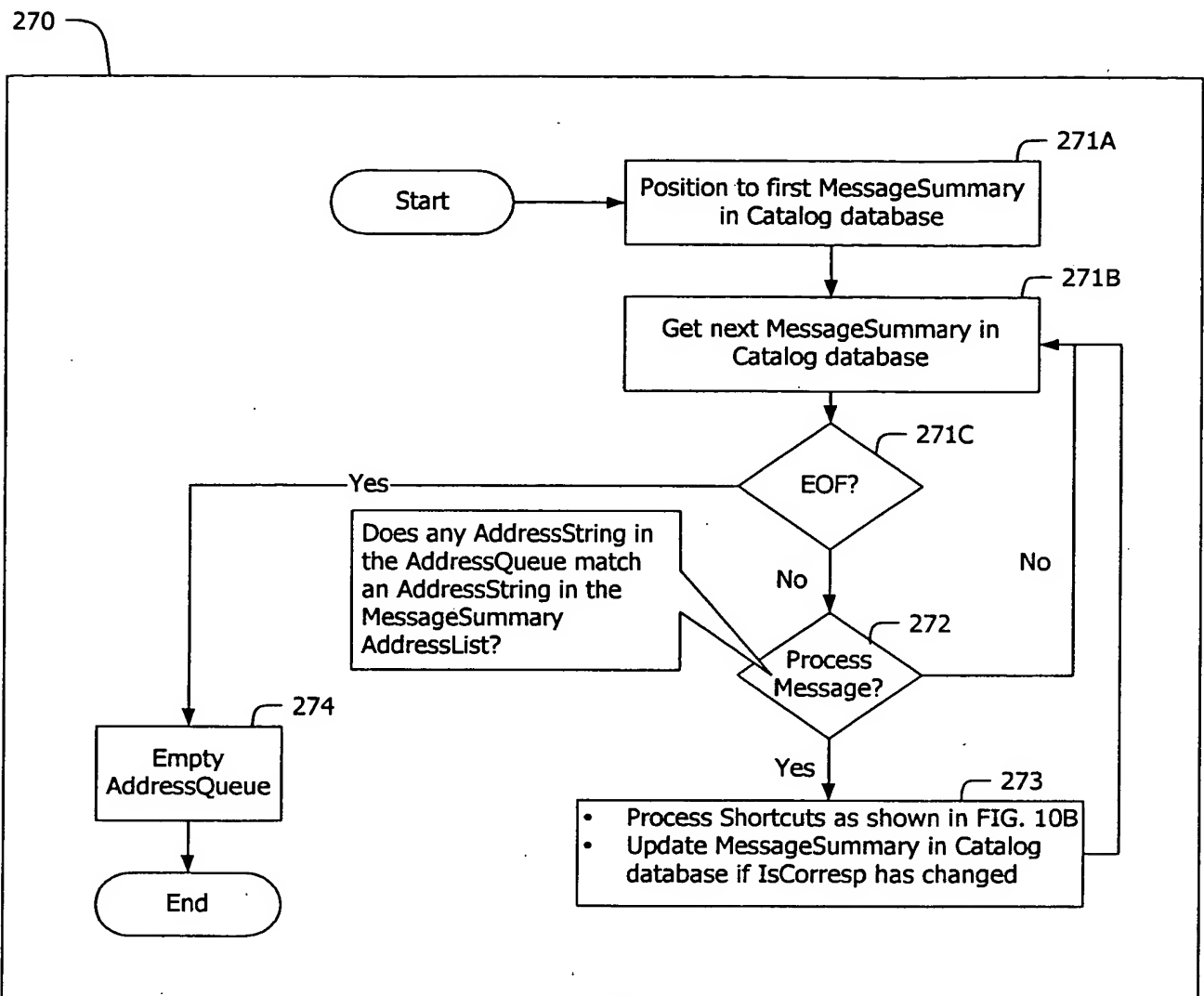


**FIG. 25B**



**FIG. 26**





**FIG. 27**